

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 17. (Canceled).

18. (New) A method for operating an internal combustion engine having an injection system, comprising:

conveying fuel into a fuel accumulator by a metering unit and a high-pressure pump;

recording and regulating a pressure in the fuel accumulator by controlling the metering unit; and

ascertaining an individual characteristics line that represents an actual response of the metering unit for control of the metering unit during operation of the internal combustion engine.

19. (New) The method according to claim 18, wherein the injection system is arranged as an injection system for a motor vehicle.

20. (New) The method according to claim 18, further comprising determining a support point for the individual characteristic curve which represents a fuel-mass flow supplied by the metering unit for the high pressure pump as a function of a control current, including:

operating the internal combustion engine in a suitable predetermined reference operating point; and

ascertaining a provisional support point of the individual characteristic curve for the reference operating point as a value pair encompassing the fuel-mass flow provided by the metering unit in the reference operating point for the high-pressure pump, and an associated electrical control current.

21. (New) The method according to claim 20, wherein the provisional support point is ascertained only when the internal combustion engine has exceeded a

predetermined minimum temperature threshold value during operation in the reference operating point.

22. (New) The method according to claim 20, further comprising:
determining a plurality of provisional support points for one and the same predefined reference operating point by multiple repetition of the operating and ascertaining steps; and
determining a final support point for the predefined reference operating point by filtering the multitude of preliminary support points.

23. (New) The method according to claim 22, wherein the filtering includes at least one of (a) mean-value generation and (b) analyzing the determined provisional support points with respect to question whether the provisional support points lie within a predefined γ -environment about a limit value, the limit value then being defined as final support point.

24. (New) The method according to claim 20, wherein the determination of the individual characteristic curve includes:

determining at least two final support points for the individual characteristic curve by repeating the operating and ascertaining steps for different, suitably selected reference operating points; and

ascertaining the individual characteristic curve for the actually used metering unit by interpolation of the at least two support points and extrapolation of inflection points of the individual characteristic curve resulting from the interpolation of a plurality of support points.

25. (New) The method according to claim 20, wherein each reference operating point is defined by at least one of (a) a predefined pressure in the fuel accumulator, (b) a predefined injection quantity and (c) a predefined rotational speed of the internal combustion engine.

26. (New) The method according to claim 20, wherein, to ascertain a single individual characteristic curve, the individual reference operating points are placed in

different operating states of the internal combustion engine as a function of the vehicle.

27. (New) The method according to claim 26, wherein the operating states include at least one of (a) idle operation, (b) full load and (c) maximum torque.

28. (New) The method according to claim 20, wherein, to determine a single individual characteristic curve, the individual reference operating points are placed in those operating states of the internal combustion engine as a function of the vehicle in which the internal combustion engine is operated most often upon installation in a vehicle.

29. (New) A computer-readable storage medium storing a set of instructions, the set of instructions capable of being executed by a processor to implement a method for operating an internal combustion engine having an injection system, comprising:

conveying fuel into a fuel accumulator by a metering unit and a high-pressure pump;

recording and regulating a pressure in the fuel accumulator by controlling the metering unit; and

ascertaining an individual characteristics line that represents an actual response of the metering unit for control of the metering unit during operation of the internal combustion engine.

30. (New) A control unit for an internal combustion engine having an injection system in which fuel is conveyed into a fuel accumulator by a metering unit and a high-pressure pump and in which pressure in the fuel accumulator is recorded and regulated by controlling the metering unit, wherein the control unit is adapted to ascertain an individual characteristic curve that represents an actual response of the metering unit during operation of the internal combustion engine.

31. (New) The control unit according to claim 30, wherein the injection system is arranged as an injection system for a motor vehicle.

32. (New) The control unit according to claim 30, wherein the control unit is adapted to determine a correction characteristic curve that represents a difference between a response of an actually used as compared to a standardized metering device during operation of the internal combustion engine, and to determine the individual characteristic curve by superpositioning of the correction characteristic curve with a standard characteristic curve representing a response of a standardized metering unit.

33. (New) The control unit according to claim 30, wherein the control unit is adapted to control the metering unit taking a previously ascertained individual characteristic curve into account.

34. (New) The control unit according to claim 33, wherein the control unit includes:

a pressure-control unit adapted to for receive a system deviation as a difference between an actual pressure and a setpoint pressure in the fuel accumulator and to generate a control signal as dictated by the system deviation on the basis of a standard characteristic curve for the metering unit, the control signal representing a fuel delivery quantity to be supplied by the metering unit for the high-pressure pump in view of the system deviation;

a stored correction characteristic curve adapted to determine a correction component for the control signal, which represents a possibly different control and supply response of an actually used metering unit compared to a standardized metering unit;

at least one of (a) an addition and (b) a subtraction device adapted to generate a corrected control signal for the metering unit by mathematical linking of the control signal with the correction component, the corrected control signal representing a corrected quantity request with respect to the fuel delivery quantity to be provided by the metering unit.

35. (New) The control unit according to claim 34, further comprising a filter device adapted to generate a stabilized control signal for the metering unit by filtering the corrected control signal.

36. (New) An internal combustion engine, comprising:
an injection system in which fuel is conveyed into a fuel accumulator by a metering unit and a high-pressure pump and in which pressure in the fuel accumulator is recorded and regulated by controlling the metering unit with the aid of a control unit;

wherein the control unit is adapted to at least one of (a) ascertain an individual characteristic curve that represents an actual response of the metering unit during operation of the internal combustion engine and (b) control the metering unit by the individual characteristic curve.

37. (New) The internal combustion engine according to claim 36, wherein the internal combustion engine is arranged as an internal combustion engine for a motor vehicle.